

INTERNATIONAL SEARCH REPORT

(PCT Article 18 and Rules 43 and 44)

2003 06 04 PORTURTHER See Notification of Transmittal of International Search as before from PCT/SA/220) as well as, where applicable, item 3 before from PCT/SA/220 as well as, where applicable, item 3 before from PCT/SA/200 as upon 20 of JUNE 2003 (05.06.2003) Applicant KIM, MU-JOONG This International search report has been prepared by this International Searching Authority and is transmitted to the applicant according to Article 18. A copy is being transmitted to the International Bureau. This international search report consists of a total of 3 sheets. It is also accompanied by a copy of each prior and document cited in this report. Basis of the report a. With regard to the language, the international search was carried out on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item. Authority (Rule 23.1 (bb)). With regard to any nucleotide and/or amino acid sequence disclosed in the international application, the international search was carried out on the basis of the sequence listing: contained in the international application in written form. Glied together with the international application in computer readable form. Gunrished subsequently to this Authority in computer readable form. the statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished. The text is approved as submitted by the applicant. The text is approved as submitted by the applicant. The text is approved as submitted by the applicant. The figure of the drawing to be published with the abstract is Figure No. Because this figure better characterizes the invention.	Applicant's or agent's file reference						
Applicant KIM, MU-JOONG This International search report has been prepared by 'this International Searching Authority and is transmitted to the applicant according to Article 18. A copy is being transmitted to the International Bureau. This international search report consists of a total of 3 sheets. It is also accompanied by a copy of each prior art document cited in this report. Basis of the report a With regard to the language, the international search was carried out on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item. the international search was carried out on the basis of a translation of the international application furnished to this Authority (Rule 23.1(b)). With regard to any nucleotide and/or amino acid sequence disclosed in the international application, the international search was carried out on the basis of the sequence listing: contained in the international application in written form. furnished subsequently to this Authority in written form. furnished subsequently to this Authority in computer readable form. the statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished. the statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished. Unity of invention is lacking (See Box I). With regard to the title, With regard to the abstract, The text is approved as submitted by the applicant. the text has been established by this Authority to read as follows: With regard to the abstract, The figure of the drawing to be published with the abstract is Figure No. By as suggested by the applicant affilied to suggest a figure.	2003.06.04		(Form FC1/15A/2	f Transmittal of International Search Report (20) as well as, where applicable, item 5 below.			
Applicant KIM, MU-JOONG This International search report has been prepared by this International Searching Authority and is transmitted to the applicant according to Article 18. A copy is being transmitted to the International Bureau. This international search report consists of a total of		International filing date	(day/month/year)	(Earliest) Priority Date (day/month/year)			
KIM, MU-JOONG This International search report has been prepared by this International Searching Authority and is transmitted to the applicant according to Article 18. A copy is being transmitted to the International Bureau. This international search report consists of a total of		05 JUNE 2003 (05.0	6.2003)	1			
This International search report has been prepared by this International Searching Authority and is transmitted to the applicant according to Article 18. A copy is being transmitted to the International Bureau. This international search report consists of a total of	Applicant						
This international search report consists of a total of	KIM, MU-JOONG	,					
It is also accompanied by a copy of each prior art document cited in this report. 1. Basis of the report a. With regard to the language, the international search was carried oft on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item. the international search was carried out on the basis of a translation of the international application furnished to this Authority (Rule 23.1(b)). b. With regard to any nucleotide and/or amino acid sequence disclosed in the international application, the international search was carried out on the basis of the sequence listing: contained in the international application in written form. filed together with the international application in computer readable form. furnished subsequently to this Authority in written form. furnished subsequently to this Authority in computer readable form. the statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished. the statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished. 2. Certain claims were found unsearchable (See Box I). 3. Unity of invention is lacking (See Box II). 4. With regard to the title, Yith text is approved as submitted by the applicant. the text is approved as submitted by the applicant. the text has been established by this Authority to read as follows: 5. With regard to the abstract, Yith the text is approved as submitted by the applicant. the text is approved as submitted by the applicant. The text is approved as submitted by the applicant. The figure of the drawing to be published with the abstract is Figure No. To be figure of the drawing to be published with the abstract is Figure No. To be figure of the drawing to be published with the abstract is Figure No. None of the figures	This International search report has been p to Article 18. A copy is being transmitted t	repared by this Internationa to the International Bureau.	Searching Authorit	y and is transmitted to the applicant according			
1. Basis of the report a. With regard to the language, the international search was carried odt on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item. the international search was carried out on the basis of a translation of the international application furnished to this Authority (Rule 23.1(b)). With regard to any nucleotide and/or amino acid sequence disclosed in the international application, the international search was carried out on the basis of the sequence listing: contained in the international application in written form. filed together with the international application in computer readable form. furnished subsequently to this Authority in computer readable form. the statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished. the statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished. the statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished. Unity of invention is lacking (See Box II). Unity of invention is lacking (See Box II). With regard to the title, The text has been established by the applicant. the text has been established by the applicant. the text has been established, according to Rule 38.2(b), by this Authority as it appears in Box III. The applicant may, within one month from the date of mailing of this international search report, submit comments to this Authority. As suggested by the applicant.	This international search report consists of	a total of 3 she	ets.				
1. Basis of the report a. With regard to the language, the international search was carried out on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item. the international search was carried out on the basis of a translation of the international application furnished to this Authority (Rule 23.1(b)). With regard to any nucleotide and/or amino acid sequence disclosed in the international application, the international search was carried out on the basis of the sequence listing: contained in the international application in written form. filed together with the international application in computer readable form. furnished subsequently to this Authority in computer readable form. the statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished. the statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished. With regard to the title, The sequence of the sequence listing (See Box II). Unity of invention is lacking (See Box II). With regard to the title, The text has been established by the applicant. The text has been established, according to Rule 38.2(b), by this Authority as it appears in Box III. The applicant may, within one month from the date of mailing of this international search report, submit comments to this Authority.	It is also accompanied by a c	copy of each prior art docum	ent cited in this repo	ort.			
a. With regard to the language, the international search was carried out on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item. the international search was carried out on the basis of a translation of the international application furnished to this Authority (Rule 23.1(b)). With regard to any nucleotide and/or amino acid sequence disclosed in the international application, the international search was carried out on the basis of the sequence listing: contained in the international application in written form. filed together with the international application in computer readable form. furnished subsequently to this Authority in computer readable form. the statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished. the statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished. Certain claims were found unsearchable (See Box I). Unity of invention is lacking (See Box II). With regard to the title, X the text is approved as submitted by the applicant. the text has been established by this Authority to read as follows: the text has been established, according to Rule 38.2(b), by this Authority as it appears in Box III. The applicant may, within one month from the date of mailing of this international search report, submit comments to this Authority. the text has been established, according to Rule 38.2(b), by this Authority as it appears in Box III. The applicant may, within one month from the date of mailing of this international search report, submit comments to this Authority. The figure of the drawing to be published with the abstract is Figure No.	1. Basis of the report						
the international search was carried out on the basis of a translation of the international application furnished to this Authority (Rule 23.1(b)). b. With regard to any nucleotide and/or amino acid sequence disclosed in the international application, the international search was carried out on the basis of the sequence listing: contained in the international application in written form. filed together with the international application in computer readable form. furnished subsequently to this Authority in written form. furnished subsequently to this Authority in computer readable form. the statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished. the statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished. Certain claims were found unsearchable (See Box I). Unity of invention is lacking (See Box II). With regard to the title, The text is approved as submitted by the applicant. the text has been established by this Authority to read as follows: b. With regard to the abstract, the text has been established, according to Rule 38.2(b), by this Authority as it appears in Box III. The applicant may, within one month from the date of mailing of this international search report, submit comments to this Authority. The figure of the drawing to be published with the abstract is Figure No. Sausgested by the applicant. None of the figures	a. With regard to the language, the	international search was cau less otherwise indicated und	rried out on the basis ler this item.	s of the international application in the			
b. With regard to any nucleotide and/or amino acid sequence disclosed in the international application, the international search was carried out on the basis of the sequence listing: contained in the international application in written form. filed together with the international application in computer readable form. furnished subsequently to this Authority in written form. furnished subsequently to this Authority in computer readable form. the statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished. the statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished. The statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished. With regard to the written sequence listing has been furnished. With regard to the title, With regard to the title, With regard to the title, With regard to the abstract, With the text has been established by the applicant. the text has been established, according to Rule 38.2(b), by this Authority as it appears in Box III. The applicant may, within one month from the date of mailing of this international search report, submit comments to this Authority. The figure of the drawing to be published with the abstract is Figure No.	the international search was	carried out on the basis of a	translation of the inte	ernational application furnished to this			
filed together with the international application in computer readable form. furnished subsequently to this Authority in written form. furnished subsequently to this Authority in computer readable form. the statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished. the statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished. Certain claims were found unsearchable (See Box I). Unity of invention is lacking (See Box II). With regard to the title, the text is approved as submitted by the applicant. the text has been established by this Authority to read as follows: 5. With regard to the abstract, the text has been established, according to Rule 38.2(b), by this Authority as it appears in Box III. The applicant may, within one month from the date of mailing of this international search report, submit comments to this Authority. 6. The figure of the drawing to be published with the abstract is Figure No. Secues the applicant failed to suggest a figure.	b. With regard to any nucleotide ar	nd/or amino acid sequence e sequence listing:	disclosed in the inter	rnational application, the international search			
furnished subsequently to this Authority in written form. furnished subsequently to this Authority in computer readable form. the statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished. the statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished. Certain claims were found unsearchable (See Box I). Unity of invention is lacking (See Box II). With regard to the title, the text is approved as submitted by the applicant. the text has been established by this Authority to read as follows: With regard to the abstract, the text is approved as submitted by the applicant. the text has been established, according to Rule 38.2(b), by this Authority as it appears in Box III. The applicant may, within one month from the date of mailing of this international search report, submit comments to this Authority. The figure of the drawing to be published with the abstract is Figure No. Secues the applicant failed to suggest a figure.	contained in the international	al application in written form	I.				
furnished subsequently to this Authority in written form. furnished subsequently to this Authority in computer readable form. the statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished. the statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished. Certain claims were found unsearchable (See Box I). Unity of invention is lacking (See Box II). With regard to the title, the text is approved as submitted by the applicant. the text has been established by this Authority to read as follows: With regard to the abstract, the text is approved as submitted by the applicant. the text has been established, according to Rule 38.2(b), by this Authority as it appears in Box III. The applicant may, within one month from the date of mailing of this international search report, submit comments to this Authority. The figure of the drawing to be published with the abstract is Figure No. Secues the applicant failed to suggest a figure.	filed together with the intern	national application in compu	iter readable form.				
furnished subsequently to this Authority in computer readable form. the statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished. the statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished. Certain claims were found unsearchable (See Box I). Unity of invention is lacking (See Box II). With regard to the title, the text is approved as submitted by the applicant. the text has been established by this Authority to read as follows: With regard to the abstract, the text has been established, according to Rule 38.2(b), by this Authority as it appears in Box III. The applicant may, within one month from the date of mailing of this international search report, submit comments to this Authority. The figure of the drawing to be published with the abstract is Figure No. as suggested by the applicant. None of the figures							
the statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished. Certain claims were found unsearchable (See Box I). Unity of invention is lacking (See Box II). With regard to the title, the text is approved as submitted by the applicant. the text has been established by this Authority to read as follows: With regard to the abstract, the text is approved as submitted by the applicant. the text has been established, according to Rule 38.2(b), by this Authority as it appears in Box III. The applicant may, within one month from the date of mailing of this international search report, submit comments to this Authority. The figure of the drawing to be published with the abstract is Figure No. as suggested by the applicant. None of the figures							
2. Certain claims were found unsearchable (See Box I). 3. Unity of invention is lacking (See Box II). 4. With regard to the title, X the text is approved as submitted by the applicant. the text has been established by this Authority to read as follows: 5. With regard to the abstract, X the text is approved as submitted by the applicant. the text has been established, according to Rule 38.2(b), by this Authority as it appears in Box III. The applicant may, within one month from the date of mailing of this international search report, submit comments to this Authority. 6. The figure of the drawing to be published with the abstract is Figure No. As suggested by the applicant. Done of the figures	the statement that the subseq	quenity furnished written sec		ot go beyond the disclosure in the			
 3. Unity of invention is lacking (See Box II). 4. With regard to the title, X the text is approved as submitted by the applicant. the text has been established by this Authority to read as follows: 5. With regard to the abstract, X the text is approved as submitted by the applicant. the text has been established, according to Rule 38.2(b), by this Authority as it appears in Box III. The applicant may, within one month from the date of mailing of this international search report, submit comments to this Authority. 6. The figure of the drawing to be published with the abstract is Figure No. 10 X as suggested by the applicant. Done of the figures 	the statement that the inform furnished.	nation recorded in computer i	readable form is ider	ntical to the written sequence listing has been			
 3. Unity of invention is lacking (See Box II). 4. With regard to the title, X the text is approved as submitted by the applicant. the text has been established by this Authority to read as follows: 5. With regard to the abstract, X the text is approved as submitted by the applicant. the text has been established, according to Rule 38.2(b), by this Authority as it appears in Box III. The applicant may, within one month from the date of mailing of this international search report, submit comments to this Authority. 6. The figure of the drawing to be published with the abstract is Figure No. 10 X as suggested by the applicant. Done of the figures 	2. Certain claims were found	unsearchable (See Box I).	•				
 4. With regard to the title, X the text is approved as submitted by the applicant. the text has been established by this Authority to read as follows: 5. With regard to the abstract, X the text is approved as submitted by the applicant. the text has been established, according to Rule 38.2(b), by this Authority as it appears in Box III. The applicant may, within one month from the date of mailing of this international search report, submit comments to this Authority. 6. The figure of the drawing to be published with the abstract is Figure No. 10 X as suggested by the applicant. None of the figures 							
the text has been established by this Authority to read as follows: With regard to the abstract, X the text is approved as submitted by the applicant. The text has been established, according to Rule 38.2(b), by this Authority as it appears in Box III. The applicant may, within one month from the date of mailing of this international search report, submit comments to this Authority. The figure of the drawing to be published with the abstract is Figure No. 10 X as suggested by the applicant. None of the figures							
the text has been established by this Authority to read as follows: With regard to the abstract, X the text is approved as submitted by the applicant. the text has been established, according to Rule 38.2(b), by this Authority as it appears in Box III. The applicant may, within one month from the date of mailing of this international search report, submit comments to this Authority. The figure of the drawing to be published with the abstract is Figure No. 10 X as suggested by the applicant. None of the figures							
 5. With regard to the abstract, X the text is approved as submitted by the applicant. the text has been established, according to Rule 38.2(b), by this Authority as it appears in Box III. The applicant may, within one month from the date of mailing of this international search report, submit comments to this Authority. 6. The figure of the drawing to be published with the abstract is Figure No. 10 X as suggested by the applicant. None of the figures 							
the text is approved as submitted by the applicant. the text has been established, according to Rule 38.2(b), by this Authority as it appears in Box III. The applicant may, within one month from the date of mailing of this international search report, submit comments to this Authority. The figure of the drawing to be published with the abstract is Figure No. 10 as suggested by the applicant. Done of the figures		ey and transferry to roug as	10110 # 3.				
the text is approved as submitted by the applicant. the text has been established, according to Rule 38.2(b), by this Authority as it appears in Box III. The applicant may, within one month from the date of mailing of this international search report, submit comments to this Authority. The figure of the drawing to be published with the abstract is Figure No. 10 as suggested by the applicant. Done of the figures		•	·.				
the text has been established, according to Rule 38.2(b), by this Authority as it appears in Box III. The applicant may, within one month from the date of mailing of this international search report, submit comments to this Authority. 6. The figure of the drawing to be published with the abstract is Figure No. 10 X as suggested by the applicant. None of the figures because the applicant failed to suggest a figure.	5. With regard to the abstract,						
6. The figure of the drawing to be published with the abstract is Figure No. X as suggested by the applicant. Decause the applicant failed to suggest a figure.	X the text is approved as submit	ted by the applicant.					
6. The figure of the drawing to be published with the abstract is Figure No. X as suggested by the applicant. Decause the applicant failed to suggest a figure.	the text has been established,	according to Rule 38.2(b), b	y this Authority as i	t appears in Box III. The applicant move			
6. The figure of the drawing to be published with the abstract is Figure No	within one month from the da	te of mailing of this internat	ional search report, s	submit comments to this Authority.			
X as suggested by the applicant. Done of the figures Done of the figures							
because the applicant failed to suggest a figure.			-	None of the factor			
·	because the applicant failed to	suggest a figure.		[] radie of the figures			

A. CLASSIFICATION OF SUBJECT MATTER

IPC7 A01K 91/06, A01K 97/00

According to International Patent Classification (IPC) or to both national classification and IPC

FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols) IPC7 A01K 91/06,A01K 97/00

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched Korean Patents and applications for inventions since 1975, Korean Utility models and applications for Utility models since 1975.

Electronic data base consulted during the intertnational search (name of data base and, where practicable, search terms used)

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Α	KR 98-0076867 A (Cha,J.Y.) 16 November 1998	1-24
A	KR 99-0069961 A (Ma,J.W.) 06 August 1999	1-24
A	KR 00-0006799 A (Han,S.H.) 07 February 2000	1-24
Α	KR 01-0092604 A (Lim,J.K.) 26 August 2001	1-24
A	KR 20-0217475 Y (Koa.lnc.) 15 March 2001	1-24

L		Further	documents	аге	listed	in the	continuation	of Box C.	
---	--	---------	-----------	-----	--------	--------	--------------	-----------	--

X See patent family annex.

- Special categories of cited documents:
- "A" document defining the general state of the art which is not considered to be of particular relevance
- "E" earlier application or patent but published on or after the international filing date
- "L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of citation or other special reason (as specified)
- "O" document referring to an oral disclosure, use, exhibition or other means
- "P" document published prior to the international filing date but later than the priority date claimed
- "T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
- X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
- "Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art
- "&" document member of the same patent family

Date of the actual completion of the international search

27 OCTOBER 2003 (27.10.2003)

Date of mailing of the international search report

27 OCTOBER 2003 (27.10.2003)

Name and mailing address of the ISA/KR



Korean Intellectual Property Office 920 Dunsan-dong, Seo-gu, Daejeon 302-701, Republic of Korea

Facsimile No. 82-42-472-7140

Authorized officer

LEE, Young Kee

Telephone No. 82-42-481-5628





PCT/KR03/01103

	Patent document cited in search report	Publication date	Patent family member(s)	Publication date	
	KR 98-0076867 A	16.11.1998	NONE		
	KR 99-0069961 A	06.09.1999	NONE		
	KR 00-0006799 A	07.02.2000	NONE	·	
	KR 01-0092604 A	26.10.2001	NONE		
	KR 20-0217475 Y	15.03.2001	NONE		
ı					